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A Study of Highly and Moderately Gifted Students in Mixed-Age Settings and the Effect on Social Status and Self-Concept

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A STUDY OF HIGHLY AND MODERATELY GIFTED STUDENTS IN MIXED-AGE
SETTINGS AND THE EFFECT ON SOCIAL STATUS AND SELF-CONCEPT

A Thesis

Presented to

the Faculty of the Department of Psychology

Western Kentucky University

Bowling Green, Kentucky

In Partial Fulfillment

of the Requirements for the Degree

Education Specialist

by

Deeayne Powell Mayfield

August 1998

A STUDY OF HIGHLY AND MODERATELY GIFTED STUDENTS IN MIXED-AGE
SETTTINGS AND THE EFFECT ON SOCIAL STATUS AND SELF-CONCEPT

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STUDY OF HIGHLY AND MODERATELY GIFTED STUDENTS IN MIXED-AGE
SETTINGS AND THE EFFECT ON SOCIAL STATUS AND SELF-CONCEPT

Deeayne P. Mayfield

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28 Pages

Directed by: Tony Norman, Carl Myers, and Shula Ramsay

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This research addresses issues of self-concept, social status, and relative age as they relate to moderately (n=146) and highly (n=161) gifted students. Previous research regarding self-concept and giftedness yielded mixed results. The majority of social status research had not been conducted with gifted students, and relative age issues have been addressed only with young children. Therefore, the present research was conducted to carry the previous studies further. Only one self-concept scale, the Behavior scale, showed a significant difference between highly and moderately gifted students with highly gifted students outscoring moderately gifted students. No significant differences between moderately and highly gifted students were found in the proportion of students in the three social status categories of popular, rejected, and neglected. There was not a significant relationship between IQ scores and social status. However, those participants who were in the rejected group tended to be brighter, and those participants in the neglected group tended to be less bright, than the popular group. The participants in the rejected group were also significantly younger than those participants in the popular and neglected groups.

Literature Review

An ongoing debate continues regarding the relationship between giftedness, self-concept, and social status. On one side of the debate are researchers who believe that those students who are highly gifted tend to be unpopular and not well accepted by peers. This side of the debate dates back to 1891 in work by Lombroso who reported that, among other things, gifted children were unpopular. Hollingworth (1942) stated that highly gifted children (IQ scores above 180) had difficulties with educational adjustments as well as social adjustments and that these bright children were likely to have conduct problems. On the other side of the debate is Terman (1929; 1958) who conducted a longitudinal study of children with IQ scores of 140 and higher, as measured by the Stanford-Binet IQ test. He stated that the children with IQ scores of 140 and higher were better adjusted than their peers with IQ scores below 140.

To further complicate the research, there is a problem concerning the definition and measurement of the term “gifted.” The definitions of giftedness and the methods used to identify gifted students vary greatly across studies (Hoge & Renzulli, 1993). Therefore, in order to make sense of the literature it has been necessary to differentiate between two levels of giftedness, highly gifted and moderately gifted.

The researcher will review the literature pertaining to highly gifted and moderately gifted. In reviewing the two groups, the researcher will investigate the findings regarding giftedness and self-concept. I will look at the conflicting research on whether students considered highly gifted feel better or worse about themselves than moderately gifted students. A second area of review will be the relationship between social status and

giftedness. Because the present study was conducted with gifted students from the seventh grade to eleventh grade in mixed-age groups, a review of research on mixed-age is included.

Highly Gifted

Many researchers support Hollingworth's (1942) ideas regarding highly gifted students. For example, in a study of early college entrance, Janos and Robinson (1985) found that at least 20 to 25 percent of children with very high ability had psychosocial difficulties; whereas, only five to seven percent of moderately gifted and six to sixteen percent of average children had similar difficulties.

Similarly, Janos, Fung, and Robinson (1985) found that 37 percent of one group of high IQ children thought of themselves as "different" from their peers. Half of these high IQ children stated that they were in some way superior to children their age. Yet, self-esteem scores for these high IQ children were significantly lower than children their age, although their scores were not out of the normal range.

More recently, Dauber and Benbow (1990) conducted a study comparing highly gifted (top 1 in 10,000) 13 year olds who scored 700 or greater on the SAT with moderately gifted (top 1 in 20) students who scored at or below 540, but were in the top 3 percent in at least one standardized achievement subtest. These researchers found that highly gifted adolescents, especially those who were verbally gifted, were at greater risk than moderately gifted youth for developing problems in peer relations. Dauber and Benbow (1990) suggested that highly gifted adolescents may have difficulty relating to their peers both on an intellectual level as well as on a social level.

Lastly, Cornell, Callahan, and Loyd (1991a) developed an early college entrance program for girls and found evidence of socioemotional problems in the radical accelerants. However, changes were made to the program (Cornell, Callahan, & Loyd, 1991b) and later studies reported evidence of healthy personality growth in these accelerants, although these girls did evidence some dissatisfaction with their social lives (Ingersoll & Cornell, 1995).

On the other side of the debate are those researchers who have found that highly gifted students are at least as well adjusted, and perhaps even better adjusted, than their classmates with average ability (Albert & Ruco, 1986; Hoge & Renzulli, 1993; Kulik & Kulik, 1991). Grossberg and Cornell (1988) found a small, yet positive correlation of IQ with healthy adjustment in a gifted group of seven to eleven year olds with IQ scores between 120 and 168. These students were also currently participating in gifted programs. These researchers, however, did note that high IQ children of other ages may have difficulty adjusting.

Likewise, Dean (1977) studied the influence self-concept played in a verbal free recall and on nonverbal paired associate learning tasks with gifted children. The average IQ for the female children was 147.9 and the average IQ for the male children was 138.5. The results suggest that self-concept is related to learning across tasks for gifted children. Children with higher self-perception showed greater mastery of verbal and nonverbal learning measures than their lower self-concept counterparts. These findings were independent of intelligence (Dean, 1977).

Moderately Gifted

In contrast to the mixed results regarding the adjustment and self-concepts of highly gifted students, studies of moderately gifted students are more consistent. For example, Lehman and Erdwins (1981) compared the adjustment of third graders in a gifted program with their chronological age mates (third graders) and mental age mates (sixth graders). Both of these comparison groups had average IQ scores between 90 and 110. These researchers found that gifted children scored more positively on social and emotional adjustment measures than their chronological age mates. Additionally, positive adjustment findings have been reported by Holliday, Koller, and Kuncze (1996) in gifted high school students, Sayler and Brookshire (1996) in eighth graders, and Karnes and Wherry (1981) in fourth through seventh graders.

Similarly, Hoge and Renzulli (1993) found that gifted children displayed slightly higher self-concept scores than average children. Specifically, the gifted children exhibited more positive academic self-concepts than the comparison group. These researchers did state that their findings were "very moderate" and the differences between the two groups were not "particularly striking."

Among other studies that support positive adjustment for the moderately gifted, Van Boxtel and Monks (1992) conducted a study with gifted achievers, gifted underachievers, and a control group. They found that gifted achievers showed significantly higher academic social self-concept than either the control group subjects or those in the gifted underachievers group. However, in social self-concept, gifted achievers only scored higher than the control group. These researchers suggested that academic

self-concept might be more related to actual academic achievement rather than general intelligence. In addition, Kelly and Jordan (1990) conducted a study with eighth grade students who represented very high, moderately high, and average levels of achievement. They found a positive relationship between academic self-concept and academic achievement. However, no differences were found among the groups on social self-concept.

Some studies report that placement in gifted programs may influence self-concept (Coleman & Fults, 1985; Cornell, Delcourt, Goldberg, & Bland, 1992; Marsh, Chessor, Craven, & Roche, 1995). However, none of these studies reported significant differences between regular class students and the gifted, nor were low self-concepts reported. For example, Marsh et al. (1995) reported that some Australian gifted and talented programs do indeed have negative effects on academic, but not nonacademic, self-concept, which supports the idea that self-concept is multifaceted.

Cornell et al. (1992) compared 1000 elementary school children who participated in various types of gifted programs or who were in regular education classrooms. They reported that initial placement in gifted programs may reduce self-concept scores because students begin to compare themselves with equally capable peers. Although there were no significant differences in self-concept between gifted and non-gifted students, those who spent more time in regular classrooms tended to have higher self-concept scores than gifted students who were in special schools or in special classes for the gifted.

Similarly, Coleman and Fults (1983) looked at a sample of fourth grade students who were in a special pull-out enrichment program one day per week. In order to

participate in the program, the student's IQ had to be 126 or higher. The researchers found that the gifted students had positive self-concepts. Furthermore, the higher IQ gifted students, who were allowed to participate in the pull-out program, had higher self-concepts than their classmates who did not qualify for the program. Additionally, as time spent in the program increased, the self-concepts of the higher IQ gifted students in the program increased whereas the self-concepts of the lower IQ gifted students in the program decreased. Similar research by Coleman and Fults (1982; 1985) found that the self-concept of those students involved in the pull-out enrichment program decreased. Therefore, it appears that lower IQ gifted students have a more difficult time making the transition from their regular educational setting to a gifted program. Coleman and Fults (1982; 1983; 1985) suggested that children judge their capabilities in relation to children in their immediate environment.

There are only a few studies which suggest that moderately gifted students could have problems. An example of such findings is by Coleman and Cross (1988). These researchers conducted a qualitative study with 15 subjects and found that many, but not all, experienced giftedness as a social handicap--being gifted interfered with full social acceptance. Likewise, Cornell (1990) looked at self-concept and peer status of high ability youths. These high ability youths had been identified as being unpopular among their peers and were currently attending a highly selective summer enrichment program. The results of this study showed that the gifted students who were identified as unpopular did not differ in achievement or ability. However, these students did have a lower academic self-esteem, lower social self-concept, and less prestigious paternal occupations.

Therefore, it seems that while studies of highly gifted students yield mixed results, studies of moderately gifted students are relatively consistent in their finding. The moderately gifted findings show that these students are at least as well adjusted emotionally as average students, and in some cases are better adjusted.

Social Status

An area of particular interest is peer rejection and the relationship between social status and giftedness. Historically, Coie et al. (1982) used positive and negative nomination scores to define five different social status groups: popular, socially rejected, socially neglected, controversial, and average. The research was conducted with third, fifth, and eighth grade students who responded to a six-item peer assessment instrument. Those students classified as popular were viewed as being cooperative and good leaders. These students received low scores on behaviors such as starting fights, being disruptive, and asking for help from others. Conversely, those students in the rejected group were thought to start fights, be disruptive, and did ask for help. Furthermore, these students were not viewed as being cooperative or good leaders. Those students in the controversial group were viewed as being as good at leadership roles as the popular students, but were also described as being just as disruptive and aggressive as those students in the rejected group. Those students in the controversial group received ratings that were at the midpoint between those in the popular group and those in the rejected group, and their attained scores were significantly different from the other two groups. Those students in the neglected group received scores that fell below the mean for all items except for the item related to being shy and withdrawn but were not significantly

different from those students in the average group as regards to that particular item. The students classified as average were at the mean for all six items.

Carlson, Lahey, and Neeper (1984) also used positive and negative nominations in their study with second and fifth grade students to select popular, rejected, and neglected groups similar to Coie et al. (1982). They found that the students in the rejected group for both grades were perceived as more aggressive, disruptive, more likely to disobey the rules, and more likely to be inconsiderate of other children. At the fifth grade level, those in the rejected group differed from the other groups on more subtle forms of social behavior such as not giving and receiving help easily, not sharing or waiting their turn, not knowing how to join a group, and being dishonest. Conversely, the second grade students manifested no such relationship.

More important to the present study, Luftig and Nichols (1990) looked at the degree of social competence of gifted children with same-age peers in integrated academic settings. These researchers examined the four social status types of popular, rejected, neglected, and controversial. The gifted children were classified based on intelligence, achievement test scores, grades, and teacher and parent nominations. These students were then enrolled in a pull-out education program outside their regular education classes for one to two hours per day. The researchers found that those students in the pull-out program were not rejected more than their same-age peers. Furthermore, the gifted children were no more ignored by age peers than were their peers who were not classified as gifted (Luftig & Nichols, 1990).

In a similar study, Cohen, Duncan, and Cohen (1994) compared classroom peer relations of fourth, fifth, and sixth grade students of average and above average ability. Those students considered to be gifted participated in a pull-out enrichment program and were compared to their classmates who remained in the regular education classrooms. To qualify for the pull-out program, a student had to meet two of the three criteria of the gifted guidelines set by the state department of education: (a) score a minimum of two standard deviations above the mean on an intelligence test, (b) show “superior academic or achievement ability which measures in the 96th percentile or above in one or more major academic areas” (p. 34), (c) or demonstrate superior intellectual ability “by the child’s ideas and projects related to one or more academic fields” (p. 34). The researchers conducted peer sociometric assessments, evaluations of special relationships (i.e., friends and best friends), and perceptions of peer behavioral dispositions for each student. They found that relative to other classmates, those students involved in the pull-out program showed greater social competence, were more aware of reciprocal friendships, and displayed fewer negative peer relations such as being aggressive and/or being the victim of aggression. However, these students did not have more friends or more best friends than their peers, but they clearly had more valued positions within the peer network (Cohen, Duncan, & Cohen, 1994).

Mixed-Age Classrooms

Because the gifted groups used for the present study are in mixed-age settings, it is important to examine the literature on mixed-age and social status. Findings from several studies provide evidence of a difference between mixed-age group interactions and

same-age group interactions (French, Waas, Stright, & Baker, 1986; Graziano et al., 1976; Brody, Graziano, & Musser, 1983).

Ahbrand and Reynolds (1972) reported that in a mixed-age classroom, children preferred older classmates and younger children were less popular. In another study conducted by Allen (1989), children completed a measure of self-concept by naming their “best” and “regular” friends. There were mixed-age friendships in the mixed-age classroom; however, these friendships were rated as “regular” friendships most often. Higher percentages of mixed-age friendships of sixth graders in the mixed-age setting were associated with lower perceived cognitive and general competence. Additionally, for the eighth graders in the mixed-age setting, a higher percentage of mixed-age friendships was associated with lower perceived cognitive and general competence, fewer opposite sex friendships, and being less popular.

In support of these findings, Lemerise (1997) found that the older intermediate aged children in mixed-age classrooms were better accepted by the peer group and were more likely to be popular. Furthermore, these students were more likely to be seen as getting along with others and less likely to be seen as shy and withdrawn. On the other hand, the younger children in the mixed-age classrooms were not as well accepted, were more likely to be rejected, and more likely to be seen as shy and withdrawn. Further research conducted by Lemerise, Caverly, Harper, and Diehl (in press) found similar results regarding age and peer relations in mixed-age settings. Additionally, longitudinal research conducted by Lemerise, Harper, Caverly, and Howes (1997) found that in mixed-age settings, the student’s age relative to other classmates contributes to peer acceptance

and status. From one academic year to the next, increases in age relative to classmates are associated with improvements in peer acceptance.

Lastly, in a program conducted at the University of Wisconsin Preschool Laboratory, Roopnarine (1987) was also interested in mixed-age socialization. He found that preschoolers showed a preference for playmates who were kindergartners as opposed to other preschoolers or school-aged children. Furthermore, the kindergartners showed a preference for other kindergartners rather than for preschoolers or school-aged children. The school-aged children also preferred children their own age instead of preschoolers or kindergartners.

Purpose

In this review, we have reported mixed findings regarding the self-concept of highly gifted and the moderately gifted, and the effects of mixed-age classrooms on social status. This researcher will attempt to answer the following questions:

- 1) Do highly gifted students have a poorer self-concept than moderately gifted students?
- 2) Is there a difference between highly gifted and moderately gifted students in the percentage of the popular, neglected, and rejected students?
- 3) Are there any mixed-age effects on social status in the gifted groups?

Method

Subjects

Subjects consisted of attendees of two programs for gifted students held each summer at a university in the south central United States. An important dimension of these programs is that they tap different levels of gifted students. Students who attend the summer *camp*, the first group, are typically brighter than average, but generally do not fit the category "highly gifted." Students in the second group, the summer *program*, are identified by either a very high ACT or SAT score, tests which the Duke Talent Identification Program candidates typically take during their seventh grade school year. Qualifying ACT scores for math are 18 or above out of a possible 36, and for English, 25 out of 36; qualifying math or verbal SAT scores are 500 or above. This group is considered to be "highly gifted." Students' qualifying scores allow them to select specific classes but not others. For the sake of simplicity, we will refer to the groups as "camp students" and "program students." Of the approximately 375 students attending the two programs, 335 (90%), 181 camp students and 154 program students, completed sufficient data to participate in this study.

Camp students included 86 males and 60 females. Ages ranged from 11 to 15 year old (Mean age = 13.53 years, SD = .86 years). Although a broad range of minorities was represented, 92% of participants were White. Most of these students participated in their local schools' gifted programs, if one existed, and lived in one south central state or its surrounding regions. They were selected for the camp on a first come-first served basis.

Program students included 89 males and 72 females. Ages ranged from 12 to 17 (Mean age = 14.65 years, SD = 1.18 years). Minorities were also part of this group; however, 82% of participants were White. This group was more geographically diverse.

Instruments

Demographic questionnaires. Demographic data such as sex, age, race, socioeconomic status (SES), and family structure (parent marital status, siblings, etc.) were collected via student questionnaires. SES was ascertained by using Hollingshead's (1975) standard scales for parental education and occupation. Scores for both education and occupation can range from 1 to 9, with lower scores indicating higher educational and occupational status.

Academic ability. To verify differences in intellectual ability between the two groups the Otis-Lennon School Ability Test, Sixth Edition, Forms F and G (OLSAT) was administered to all students. This test yields three scores of importance: the School Ability Index (SAI), the School Ability Index Nonverbal (SAI Nonverbal), and School Ability Index Verbal (SAI Verbal). The SAI score is the average of the other two scores. These scores provide an index of each student's standing among students of the same grade.

Self-concept. Harter's (1985) Self-Perception Profile for Children (SPPC) was used to measure self-concept. The SPPC is a four-point Likert type scale containing six measures of self-concept: physical appearance, athletic competence, behavioral conduct, scholastic competence, social acceptance, and global self-worth. The validity of Harter's Scale (1985) has been well established. It was, however, designed to use with

children through the eighth grade, but it has been successfully used with children through sixteen years of age (Cornell et al., 1990). These researchers found internal consistency correlations for all scales to be .75 and above.

Social Status. Social status data was collected following the guidelines of Lemerise (1997). First, each student was asked to rate, using a Likert type scale of 1 “like least” to 5 “like most,” how much he/she liked to spend time with each member of his/her counselor group. Counselor groups ranged in age from 11 to 16. Second, each student was asked to nominate member of his/her group from the following descriptions: “Students you enjoy being with the *most*,” “Students who sometimes are disruptive,” “Students who act shy or are hard to get to know,” and “Students who are easy going, helpful, or cooperative.” A measure of overall acceptance (or likability) by the peer group (peer acceptance) was derived by rating data by calculating the mean of all individuals within a group and standardized within group to yield measures of aggression (fight score), shy/withdrawn behavior, (shy score), and general social competence (gets along score) relative to individuals within the group.

The participant’s social status within the group was assessed. Because the director of the program was uncomfortable with a negative nomination question, social status categories were defined using the method suggested by Asher and Dodge (1986). With this method, the number of like least ratings is substituted for the number of negative nominations. The results derived from this alternate method agree very well with those derived from the Coie et al. (1982) method in classifying children as rejected; the method also is reasonably accurate in identifying popular and controversial children (Asher &

Dodge, 1986). The number of nominations for the question “students you enjoy being with the most” were tallied and standardized (z-scores) for each participant to represent the like most (LM) score. The ratings of “1” (“you wouldn’t like to spend time with that person”) received by each participant were tallied and standardized (z-scores) to represent the like least (LL) score. These standardized LM and LL scores were used to define social status (Coie, Dodge, & Coppotelli, 1982). Social preference (SP) was determined by subtracting LL from LM. Social impact (SI) was calculated by adding LL and LM. Participants were classified as rejected if $SP \leq -1.00$, $LL > 0$, and $LM < 0$. Popular status was defined as $SP \geq +1.00$, $LM > 0$, and $LL < 0$. Participants were classified as neglected if $SI \leq -1.00$, and absolute $LM = 0$. Controversial status was defined as $SI \geq +1.00$ and $LL > 0$, $LM > 0$. Average status was defined as $SP \geq -0.5$ and $\leq +0.5$. Those participants who did not meet the above criteria were termed unclassifiable. This process of classification resulted in a sample of 61 rejected (33 boys, 28 girls), 100 popular (46 boys, 54 girls), 14 neglected (3 boys, 11 girls), and 67 average (33 boys, 34 girls).

The participants’ exact ages calculated in years, months, and days were standardized within groups (z-scores) to obtain a measure of age relative to their group peers (Lemerise, 1997). It should be noted that relative age is not equivalent to chronological age; for example in this sample, a twelve year old could be any of the relative age groups, depending on the age mixture of his/her group.

Procedures

As part of the application to attend either the summer camp or program, parents were asked to complete a demographic questionnaire. Parents were also asked to submit

a signed consent form granting permission for further testing of their child.

Because some of the camp students chose not to reside on the campus, all testing for the camp students took place during three separate regularly scheduled class times. Because all program students stayed on campus, testing took place during two evening sessions specifically scheduled for testing.

Results

Before examining relationships among variables, social status in the dorm setting was obtained. Of the 307 students, 100 were popular, 59 rejected, 66 average, 14 were neglected, and 68 were unclassifiable. The present research was conducted using clearly defined groups (popular, rejected, and neglected). Those students who were average or unclassifiable were not included in the research.

Regarding demographic variables, social status was not significantly related to parent education and occupation, or participants' race (white versus minority). Although previous research has warned of possible sex bias in peer ratings (Asher & Hymel, 1981; Cornell et al., 1990), statistical analysis revealed none.

Question 1

To answer the first question regarding whether highly gifted students have a poorer self-concept than moderately gifted students, t-tests were performed on all Harter Self-Concept Scales (1985). Only one scale of the Harter (1985), the Behavior scale, showed a significant difference between groups, $t(273) = -2.65$, $p < .01$, with highly gifted students outscoring the moderately gifted students. However, this statistical difference is not practically significant because both groups have above average self-concept means (Camp mean = 3.19, Program mean = 3.38). Harter (1985) reported that each subscale's average fluctuates around the value of 3.00 across research studies.

Question 2

In order to answer the question regarding a difference between highly gifted and moderately gifted students in the percentage of the popular, neglected, and rejected

students, a chi square was computed. As shown in Table 1, no significant differences between camp and program students were found in the proportion of students in the three social status categories.

Table 1

The Proportion of Program and Camp Students in the Popular, Rejected, and Neglected Groups

Social Status	Program (Moderately Gifted)	Camp (Highly Gifted)
Popular	56 (44%)	44 (39%)
Rejected	34 (27%)	25 (22%)
Neglected	3 (2%)	11 (10%)

Note. Percentages are column percentages and less than 100% due to dropped categories.

A concern, however, was that previous research (Norman, Ramsay, Martray, Roberts, in press) showed camp and program students to be more similar in intellectual ability than anticipated. Therefore, a smaller sample (N=60) of students who had taken a standardized IQ measure (OLSAT) was used to compare the relationship between intellectual ability and social status. A one-way ANOVA was conducted and the results, as noted in Table 2, showed that there was not a significant difference among social status groups on OLSAT scores. However, those participants who were in the rejected group tended to be brighter than those participants in the neglected group.

Table 2

A Comparison of Intellectual Ability and Social Status in Relative Age Groups

	Relative Age	Social Status	Intellectual Ability
Rejected	-.56	15.76	129.30
Popular	.34	18.92	127.58
Neglected	-.80	15.39	120.00

Note. Based on 60 cases.

Question 3

To address the third question regarding mixed-age effects on social status in the gifted groups, a one way ANOVA was completed with relative age (z-age) being the dependent variable and social status (SS) being the independent variable. A significant difference was found, $F(2,172) = 23.60$, $p < .001$, and a Tukey test was then performed in order to control error. The students in the rejected group (mean z-age=-.69) were significantly younger than the students in the popular (mean z-age=.33) and neglected (mean z-age=-.01) groups. A look at the interaction between relative age and IQ on social status, based on 60 cases, revealed relative age as the only significant contributor.

Further analyses were conducted to address additional questions related to social status. One question was whether students are aware of their social status. To answer this question a ANOVA was conducted to investigate the relationship between the Social Subscale of the Harter (1985) and Social Status. A statistical difference was found

($F(2,154) = 11.46, p < .001$) showing popular students (mean=18.92) to have a significantly higher social self concept than rejected students (mean=15.61) but not neglected students (mean=18.08).

Another question was whether any of the peer nomination categories (i.e., shy, fights, easygoing) were related to one's social status. One way ANOVAs were conducted for each nomination category. The easy going category was significantly related to social status ($F(2,172) = 65.92, p < .001$) with popular students (mean z-score=.72) being nominated significantly more than rejected students (mean z-score=-.84) and neglected students (mean z-score=-.44) The fights category was significantly related to social status ($F(2,172) = 26.05, p < .001$) with rejected students (mean z-score=.80) being nominated significantly more than popular student (mean z-score=-.31) and neglected students (mean z-score=-.22). The shy category was significantly related to social status ($F(2,172) = 22.91, p < .001$) with popular students (mean z-score=-.47) being nominated significantly less than rejected students (mean z-score=.36) and neglected students (mean z-score=.76).

Discussion

In answering the first question regarding whether highly gifted students have a poorer self concept than moderately gifted students, the results showed self-concept differences on the Behavior scale of the Harter (1985) and this difference favored the highly gifted. However, the difference is slight and may not be meaningful. This finding is in contrast to the findings of Janos and Robinson (1985). They found 20 to 25 percent of highly gifted children suffered psychosocial difficulties; however, only five to seven percent of moderately gifted and six to sixteen percent of average children suffered similar problems. Dauber and Benbow (1990) also suggested that highly gifted adolescents were at a greater risk of developing peer relation problems. However, several other researchers have found highly gifted students to be as well adjusted or better adjusted than average ability classmates (Albert & Ruco, 1986; Dean, 1977; Hoge & Renzulli, 1993; Kulik & Kulik, 1991).

Regarding the question of whether there is a difference between highly gifted and moderately gifted in the percentage of popular, neglected, and rejected students the results showed no differences. These findings are consistent with Norman, et al. (in review). It also reinforces in general those studies that have found gifted students to be no more or less adjusted than other students (Coleman & Fults, 1983, 1985; Janos & Robinson, 1985) and especially those studies that found highly gifted students normally adjusted (Richardson & Benbow, 1990; Grossberg & Cornell, 1988). Furthermore, these findings add to those findings of Janos, Fung, and Robinson (1985) and Cornell (1990). They

reported that factors unrelated to giftedness often contribute to adjustment problems.

In looking at the final question regarding mixed-age effects on social status and the gifted groups, a significant difference was found. The students in the rejected group were significantly younger than those students in the popular group. These findings are consistent with results of Lemerise (1997). She found older intermediate aged children in mixed-age classrooms were accepted better within the peer group and popular. It should be noted that the children in Lemerise's (1997) study were ages three to ten and the students in the present study were in grades seven through eleven. Therefore, it appears that the present study further substantiates the evidence of mixed-age effects in peer relations. Even though there are many studies on mixed-age relationships (e.g., Ahbrand & Reynolds, 1972; Allen, 1989; Lemerise, 1997; Lemerise, Harper, & Howes, 1998), the majority have focused on young children, and only a few have focused on gifted students (e.g., Cornell et al, 1990). Therefore, the current findings provide additional support for the hypothesis that relative age among a group of peers is a key factor in social status.

The present research was conducted to further investigate issues addressed by Norman et al (in review). These researchers have conducted similar research with moderately and highly gifted students in the areas of self-concept and relative age. The present research was also completed to expand research in the area of mixed-age studies conducted by Lemerise (1997) and Lemerise, Harper, & Howes (1998). These studies utilized students in primary grades only. The present research was able to address similar issues but with middle and high school aged students.

This research is beneficial for more than one reason. First, it shows that giftedness is not so different from other factors that affect social problems. Giftedness in and of itself does not lead to difficulty in getting along with others. Secondly, the results of this research may help teachers see beyond a student's giftedness when dealing with that student's behavior problems. In particular, as related to this research, it would behoove the teacher to note the age of that student relative to his/her classmates. The relative age findings may lead to further debate regarding acceleration. When a student is allowed to accelerate, he/she is placed into a classroom with students who are year older. Applying the findings from the research would suggest that the accelerated student may have problems being accepted by other students in the class. Research has consistently shown, with a wide range of ages, that being the youngest in the peer group leads to rejection by those peers. Therefore, careful thought should accompany the decision to accelerate any student no matter his/her intellectual ability.

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